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TRADITIONAL POTTERS OF THE KATHMANDU VALLEY: AN ETHNOARCHAEOLOGICAL STUDY

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This study of surviving traditional potters in Thimi and Bhadgaon just outside Kathmandu is concerned especially with what archaeologists are usually unable to discover i.e. the potter's motivation in making his decisions about the pots he makes and the designs he puts on them. The Newar potters proved both accomplished and articulate. The major stimulus to virtually all their decisions was the desire to sell the largest number of pots in a competitive situation: hence each potter made the greatest range of shapes with the greatest number of variations in each that he could. Other questions studied included how the potters, and their customers, named their pots (largely by function rather than morphology), the interrelationship (both functional and financial) between clay containers and those of wood, basketry and metal, and the degree to which a total archaeological study of a ceramic system could be expected to yield a representative picture either of that system as it once existed or indeed of the total society of which it formed a part.

Two communities in the Kathmandu Valley produce virtually all the pottery used both there and in the neighbouring mountain villages. One is Thimi, a village about 4 miles east of Kathmandu, comprising roughly 700 potting households, the other Bhaktapur (also called Bhadgaon) about 10 miles east of Kathmandu is larger, but with only about 300 potting households.

Both have access to excellent clay sources. The dark grey *kalimati* is found especially through the centre of the Valley, while small quantities of a second type, *kamero* or *takucho* which is greyish white in colour, diatomaceous, and high in silica content, are found at Thimi. Little wood is available for fuel, and the pots are fired in bonfires of straw covered with ash. The potting families, the *kumar*, like most of the specialist castes in the Valley are predominantly Hindu, and in Thimi at least, all Newar. Households consist of parents and sons with their families, varying from three to ten in number. Much of the potting is done by the men; although there is no rule about this, the women have children to look after or work in the fields. Some cultivation especially of vegetables is carried out by the potting families, but garden produce is not usually sold for cash as with the unspecialised village families. Pottery is carried to Kathmandu by the boys or men of the family on *banghi* sticks for sale in the market.

The present study resulted from limited fieldwork in August 1972, and was aimed at investigating the relationship between the potter, his repertoire and his market. In any traditional pottery situation the potter on the one hand has a basic pool of skills—the local ceramic tradition—to which he is bound either more or less rigidly according to the nature of the mechanism of skill transmission. The customer on the other hand equally has a range of needs, conditioned primarily by his environment and mode of subsistence, together with additional cultural and social

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factors, within which he too has the opportunity for personal choice in certain areas. This choice he may exercise in varying degrees. Between the two—the product of the shifting balance between them—is the pottery repertoire.

So often for the archaeologist this is all he has, backed up by a general idea of the environment, considerable ignorance of the social and cultural supra-environment, a general idea of the ceramic tradition, extreme ignorance of the mode of skill transmission and fair knowledge of the customers' needs as based on economic factors decreasing rapidly in cultural and spiritual areas. The present study was one of a series by the writer concerned with the exploration of these relationships in different contemporary ceramic situations in which information of considerable interest to the archaeologist is still available.

I

The pottery made by the Thimi and Bhadgaon potters is far more varied in form, decoration and technique than that found in most parts of India. Functional variation of shape is considerable; pots can be painted, pattern-burnished, stamped, rouletted, incised, sprinkled with mica or elaborately carved, while techniques include double firing to produce black wares as well as the usual forms of wheel-throwing, beating and scraping.

The repertoire is dominated by the common household containers for liquids and solids, i.e. the *ghyampo*, *ghagro* and *ghaiñto*, as well as the common cooking pot of a form well known in north India, the *hāndi*. These are made in enormous quantity and with considerable minor (or secondary functional) variation. In addition a wide range of more specialised vessels is made for the making and drinking of rice beer and *rakshi*, for the transport and storage of milk products, for the storage of pickles and roasting maize, for household worship, for smoking and for a variety of miscellaneous domestic needs. These forms are listed below and illustrated on figs. 1–4.[1]

1. *Common domestic jars*

The commonest domestic vessels are the *ghyampo* (pl. 4), a very large container used for both grain and rice beer storage; the *ghagro* (fig. 1,4), a smaller vessel usually with gently rounded base for carrying and storing water, often similar in shape to the standard brass household water pot for those who can afford it, the *ghagro* (fig 3, 16); the *ghaiñto* (fig 1, 3), again usually slighter smaller, more often with a flat base, and used for both liquid and dry goods; and the *hāndi*, a wide-mouthed cooking-pot for both boiling and roasting (fig 1, 2).

The range of size for each class, as reported, is given below:

	Smallest	*Largest*	*Usual*
Ghyampo	2 and a half pati	30–35 pati	20 (80 litres)
Ghagro	2 pati	5 pati	3 (12 litres)
Ghaiñto	1 mana	12 mana	$\frac{1}{2}$–1 (2–4 litres)

(1 pati = roughly 4 litres = 8 mana)

It is apparent that there is a considerable overlap between the classes although the main grouping is clear. Overall shape as well as rim detail and decoration also vary within each class to such a degree that within-class variation can be as

Newari name	*Nepali name*	*Function*	*Ware*
FIGURE 1—Clay vessels			
1. Khayata tañ tankegu*	—	Fowl fountain	Red burnished
2. Bhājañ*	Hāndi	Cooking pot	Buff
3. Ghañ*	Ghaiñto	Small store jar	Buff
4. Chaghañ*	Ghagro	Water pot	Buff
FIGURE 2—Clay vessels			
1. Thēki (2 maṇa)*	Theki	Milk pot	Red burnished
2. Thēki (1 mana)*	Theki	Milk pot	Red burnished
3. Thēki (large)*	Theki	Lassi pot	Red washed
4. Bhyagañ*	Bhinoto	Domestic bowl	Coarse
5. Anti	Anti	Decanter	Brown-black burnished
6. Gulloo	Doobli	Rice spirit pot	Brown-black burnished
FIGURE 3—Clay and brass vessels			
1. Twaduwa*	—	Lamp	Buff
2. Gompacha*	—	Offering pot	Buff
3. Apacha*	Apacha	Death ceremony pot	Buff
4. Palla*	Palla	Offering saucer	Buff
5. —	—	Clay stamp for pot decoration	Buff
6. Maka*	Maka	Brazier	Buff
7. Chilan	Chilan	Tobacco holder	Brown-black burnished
8. Chilan	Chilan	Tobacco holder	Buff
9. Maka*	Maka	Brazier	Buff
10. Pato	Pato	Stopper	Buff
11. Pato	Pato	Stopper	Buff
12. Acharkulo	Acharkulo	Pickle jar	Brown-black burnished
13. Tañpha*	—	Drinking vessel	Brass
14. Kharuwa	Kharuwa	Drinking vessel	Brass
15. Khāshi * Jānsi	Kharkulo	Large cooking pot	Brass
FIGURE 4—Brass vessels			
1. Foshi	Foshi	Pan especially for distilling	Brass
2. Bata	Bata	Large cooking and serving pan	Brass
3. Kopara	Kopara	Chamber pot	Brass
4. Ghañ	Ghagri	Water pot	Brass
5. Kasauri*	Kasauri	Cooking pot (dhall)	Brass
6. Tasaula	Tasaula	Cooking pot (cheaper)	Brass
7. Pyudani*	Fika dani	Spittoon	Brass
8. Amkhora	Amkhora	Drinking vessel	Brass
9. Kasauri*	Kasauri	Rice cooking pot	Brass
10. Jwāla Nakon*	Nakon	Mirror used in washing	Brass
11. Surkunda	Surkunda	Lamp with Ganesh and snakes	Brass
12. Kalañ	Kalañ	Carrier for ritual vessels	Brass
13. Twaduwa*	Twaduwa	Lamp	Brass

* Many of the names of these lists were most kindly checked for me subsequently by Dr M. R. Allen of the Anthropology Department, University of Sydney. Those marked with an asterisk are confirmed Newar words.

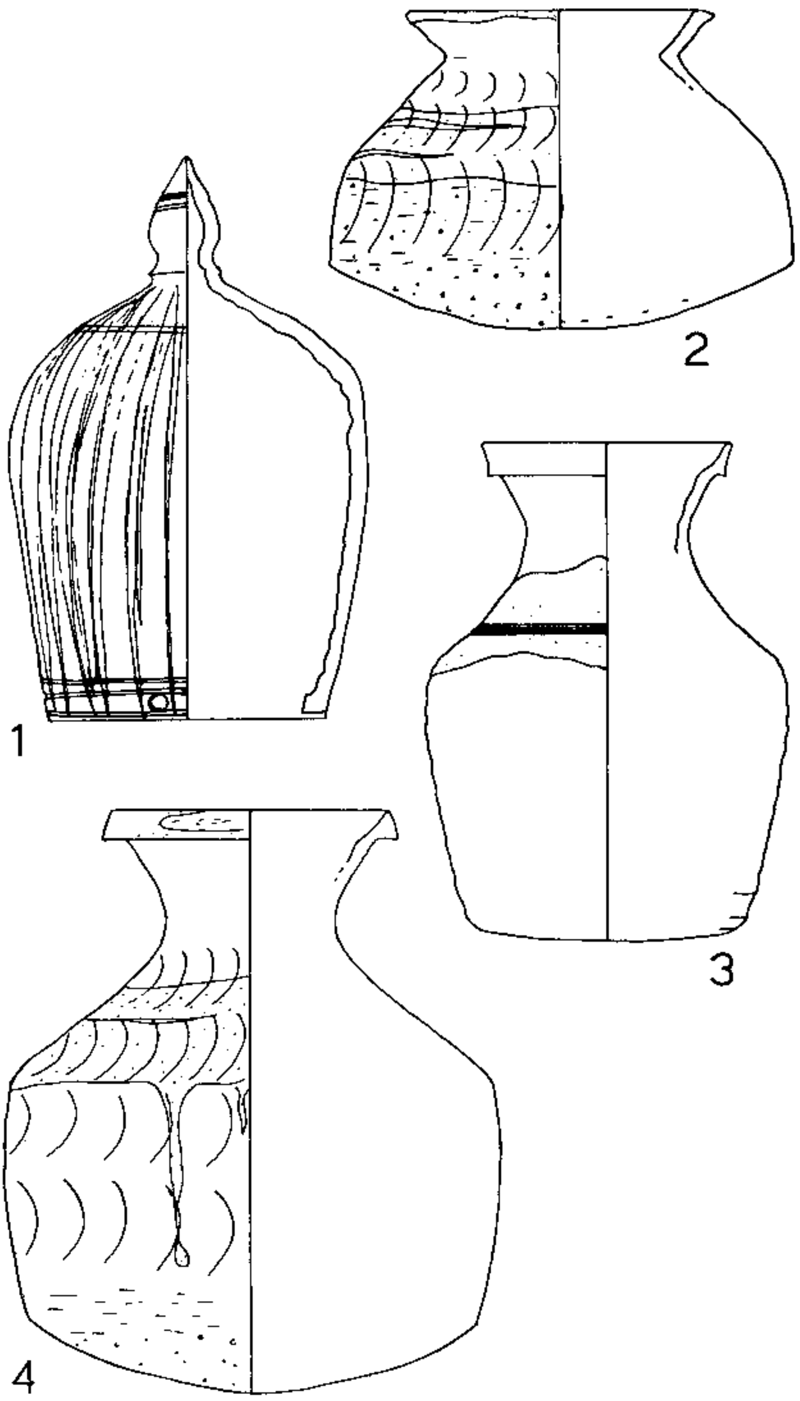


FIGURE 1

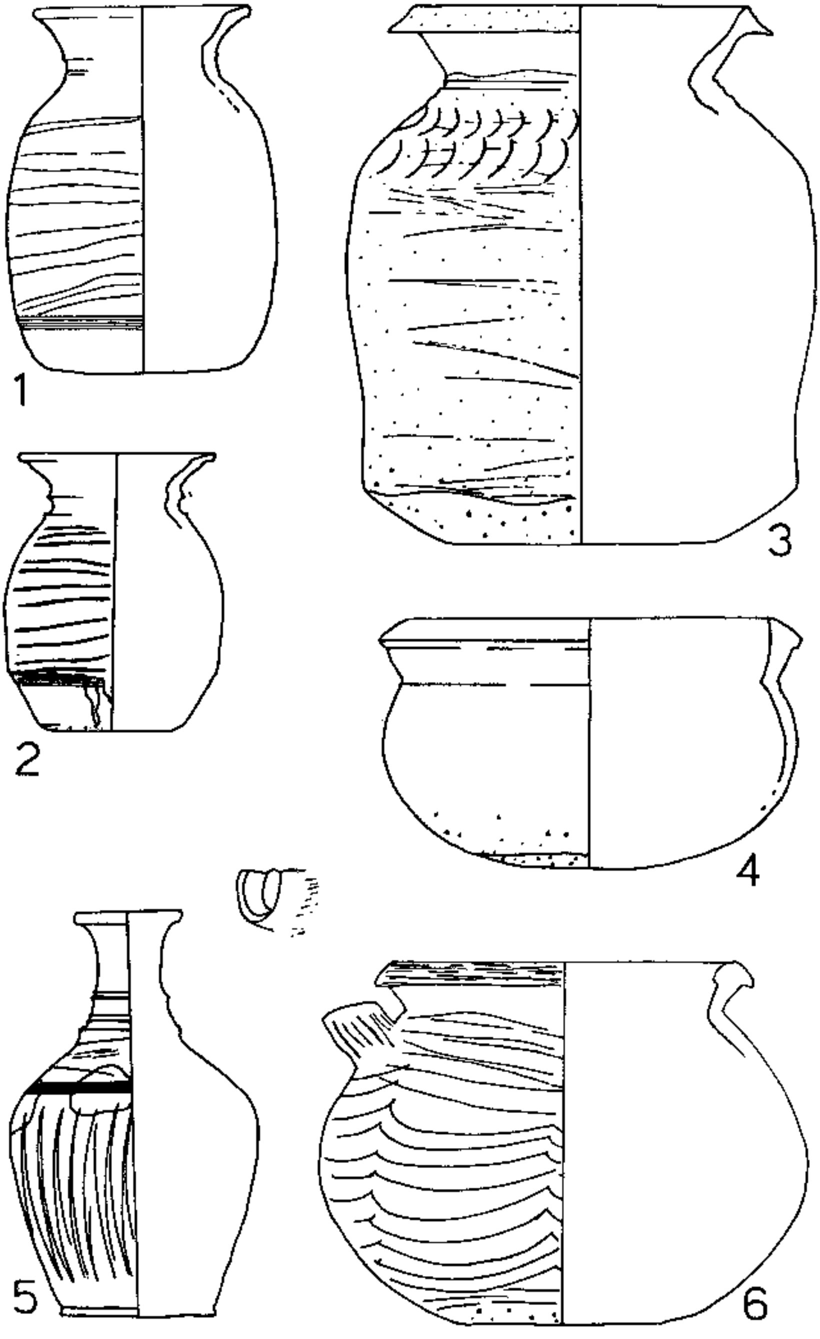


FIGURE 2

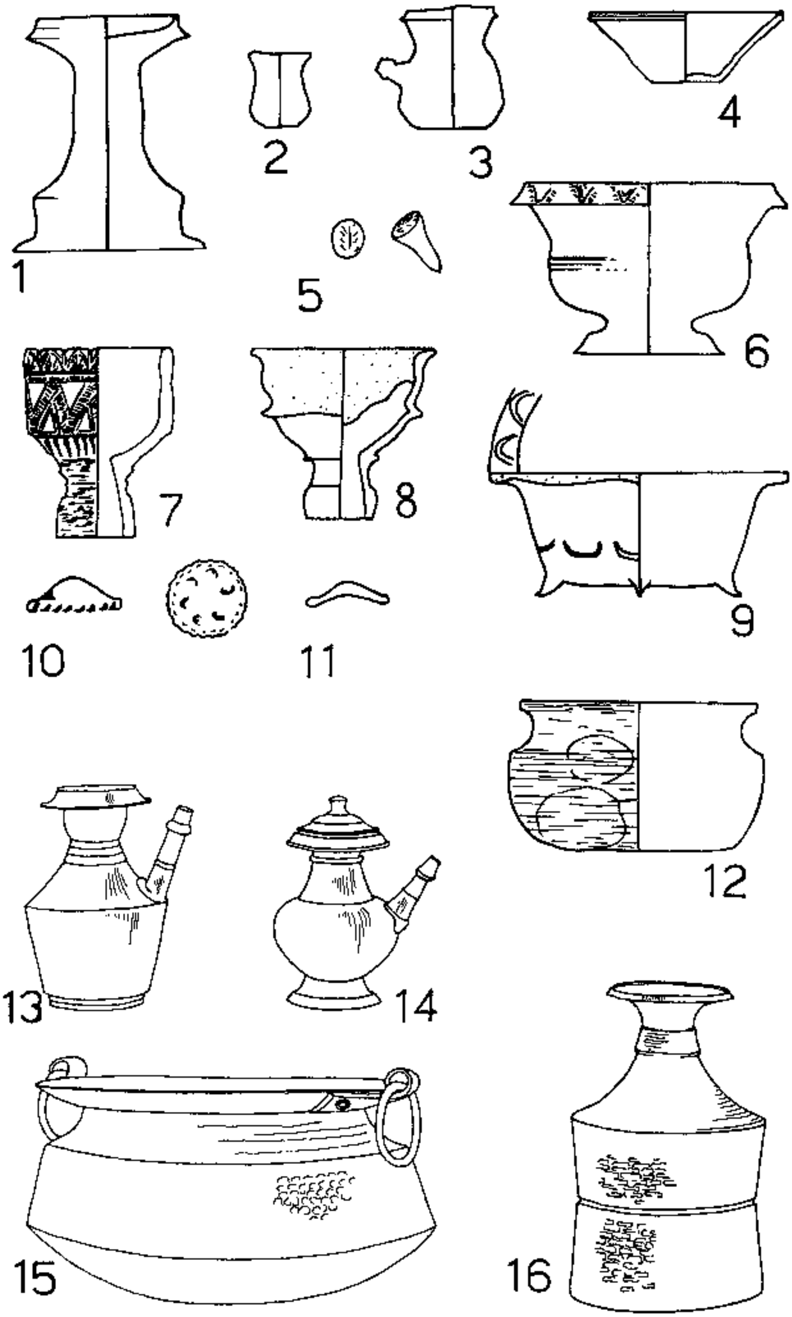


FIGURE 3

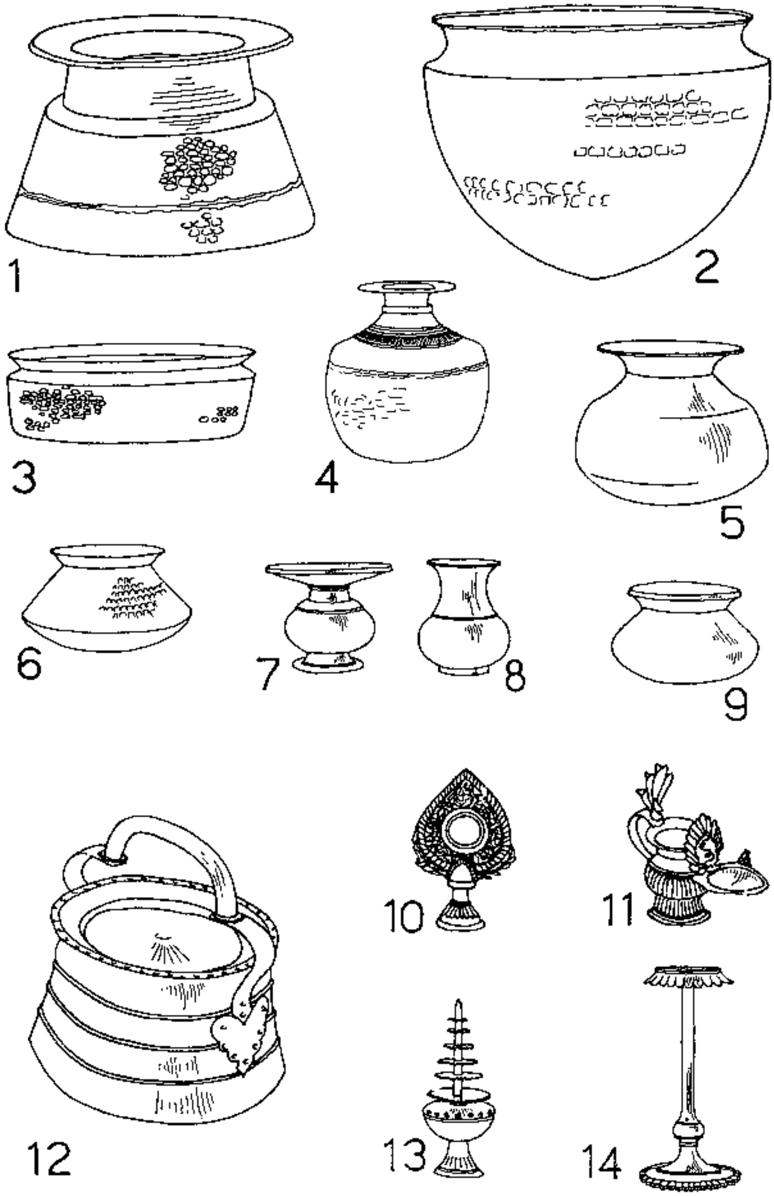


FIGURE 4

great or greater than inter-class variation, according to the potter's assessment of fashion trends of the moment. Round or flat base, angular or rounded shoulder, and double, ledged, undercut and bevelled rims can occur on either *ghagro* or *ghaiñto*. The fact remains that there is a recognisable ideal template of each which both potters and consumers are aware of, even while they are affirming as either *ghaiñto* or *ghagro* a vessel demonstrably different in almost all features from what they themselves describe as the ideal type.

The *hãndi* comes in two sizes, and is one of the most standardised forms. The valley people use it especially for roasting buckwheat, subsequently pounded into flour, the mountain people more commonly for boiling.

All these shapes are first started on the wheel and successively beaten out to their final shape, the smaller ones requiring three stages of beating, the large *ghyampo* requiring no less than five. All are buff and porous when completed with bands of matt red slip as decoration; the large *ghyampo* and the *ghagro* sometimes also have applied rows of stamps (made with a small clay stamp) coloured white with chalk.

These are the general-purpose household containers, and it is these, especially the last three, which are made and sold in the largest quantities, both in the villages to local and distant purchasers, and in the urban markets. Obviously the very large *ghyampo* are difficult to transport, so that fewer are sold over a distance.

2. *Containers for milk products*

The properties of clay are considered particularly suited to a variety of uses for milk. Very common is the *thẽki* of either 1 or 2 mana, i.e. half or one litre (fig 2, 1–2). These have a sack-shaped body, constricted neck and wide rim, and are used mostly for bringing milk into the town for selling. They can be re-used indefinitely provided they are thoroughly washed. A significant feature of them is that they are bright red-slipped, and are partly burnished. Sometimes they have black patches on them from uneven firing—said by the potters to be the result of 'burning', when the wind catches one side of the bonfire causing it to burn too hot and fast.

Another vessel is the *dhau bhyāgañ* like a porridge plate, used to set curd. These again come in varying sizes, with diameter according to need. The common ones for sale are about 20 cm across. A third pot is the *lassi* jar, or large *thẽki* (fig 2, 3), a heavy, exceptionally well-made pot with flaring neck and bevelled rim, into which curd and water are put to make *lassi*. The largest can be 20 mana, and they range down to 4. The large ones, being thick, are said to be very strong, and are comparatively expensive (3 rps). They are coated with a dull brown-red wash, but not burnished, on the stated grounds that the butter fat will produce the same effect as burnishing, i.e. decreased porosity. In all these forms clay is specifically said to have a beneficial flavour. Butter however is not put into clay, since the best butter is firmly asserted to come only from *dharharpe*, wood pots.

3. *Rice beer preparation, storage and drinking vessels.*

Rice beer is prepared from fermented rice in large *ghyampo* in which it is also stored. If taken to the fields or drunk in the home it is often poured from a heavy wide-spouted jug, with a strap handle to assist in pouring. These jugs called *swoña* (pl. 3, 3) are like the majority of vessels used for alcoholic liquids in the

Kathmandu Valley, black and highly burnished, often with ornate pattern-burnished designs as described below in the *rakshi* pots. Both spout and handle forms distinguish the beer jugs from the *rakshi* decanters which have a finer spout with small pouring hole, and small or no handle (pl. 3, 1, 2). The traditional drinking vessel is the small saucer or *sali* (*dabaka*), the more recent form the *glas*, or beaker.

4. Rakshi *preparation and drinking vessels*

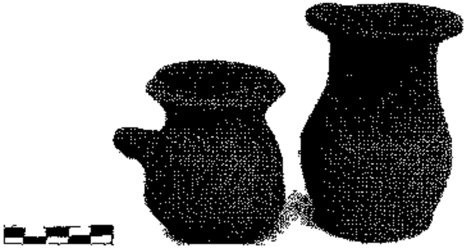
A considerable proportion of rice beer is not drunk in its primary state but is distilled to make *rakshi*, an essential part of all Newar ceremonies and festivals. A number of specialised pots are used in making, storing and drinking *rakshi*, and it is perhaps noticeable that they are mostly distinguished by certain unusual characteristics. They are most desirably black rather than buff or red, and to achieve this they are fired twice—first normally, then for a short time in a very smoky fire. This is said to make them very strong, so that they last well—and the best *rakshi* is considered to be that which is stored in an old black *ghaiñto*. Secondly, they are usually elaborately burnished, and may even be carved and fluted.

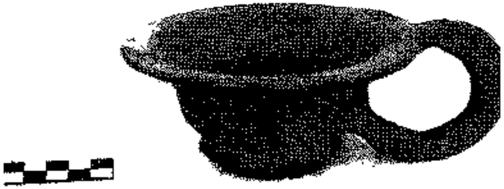
For distilling a set of four pots is required—a brass or copper *foshi* (fig 4, 1) half filled with rice beer, which is set immediately above the fire, with a large clay pot called a *petassi* above it with holes pierced in its base so that the vapourising beer can rise through it to condense against the underside of a third large pot on top of the *petassi*—this time another copper one, a wide shallow *bata* (fig 4, 2) or *chaubbata* filled with water. The fourth pot is a clay one called a *gulloo* (fig 2, 6) of a distinctive spouted shape in dark hand-burnished clay, which is placed within the *petassi* to catch the condensing drips. Again it is traditional that the best *rakshi* is made in an old black well-burnished *gulloo*. To make the best *rakshi* the process is continued for 15–30 minutes and the water changed twice (pl. 7).

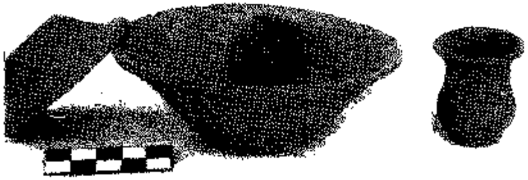
When made, the spirit is stored in a *ghaiñto* (pl. 3, 5 and 6), if possible a burnished black one. At festival time the spirit is dispensed from a variety of elegant plain narrow-necked carafes or narrow-spouted decanters called *anti* (fig 2, 5: pl. 3, 1 and 2), poured through a narrow hole from a height to give maximum aeration. These are demonstrably imitative in shape and ornament of traditional gold, silver and copper examples of apparently Sino-Tibetan association. The potters' explanation of the desirability of burnishing on these pots is that it makes them less porous so that they do not soak up all the wine.

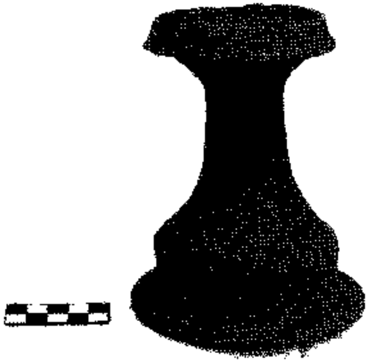
5. *Pickle jars*

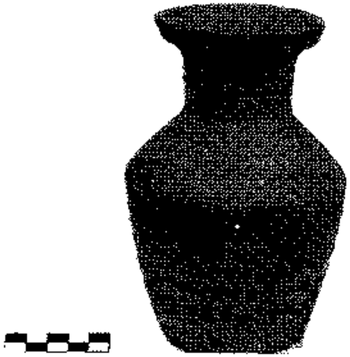
Associated with the pottery connected with alcoholic beverages is the very interesting and varied range of pots made for pickle storage and serving, the *acharkuli* (fig 3, 12: pl. 2, 3–6.). They also are usually either black or red burnished, sometimes pattern burnished, and very nicely made, with maximum attention given to the need to exclude air and cut down on evaporation through the pot walls. Many kinds of pickle are made, from mangoes, lemons, cucumbers and *lopshi*, and the potters affirm that even a soft pickle like lemon or *lopshi* can be kept up to a year in one of these pots. Clay is considered essential as a container for the best flavoured pickles. Shapes of the pickle pots are also interesting in that, like the *rakshi* decanters, they exhibit considerable individual variation.


1. *Kulincha* (right), *Apacha* (left)


2. *Dhupouro*


3. *Palla* (left), *Sali* (centre) and *Gompacha*


4. Lamp


5. *Saraswati Dhara*

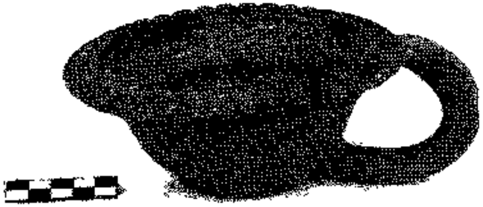
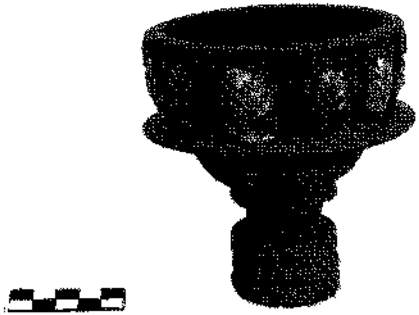
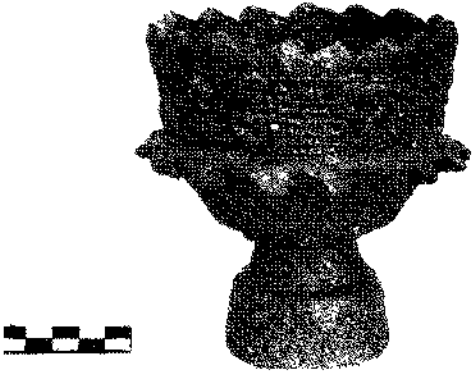

6. *Dhupouro*

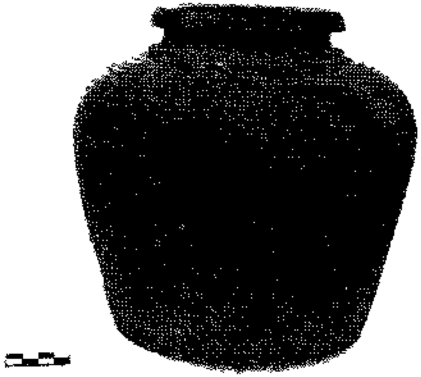
PLATE 1. Ritual vessels.



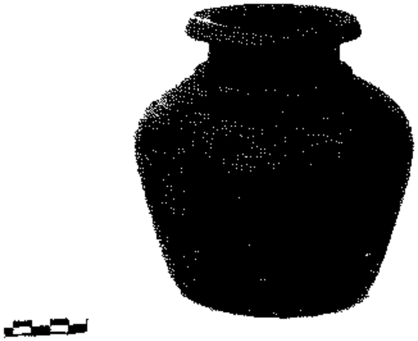
1. *Chilan*



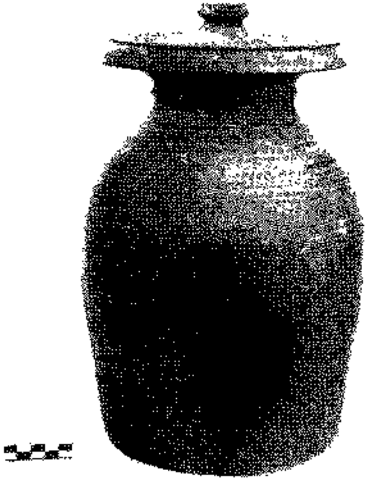
2. *Chilan*



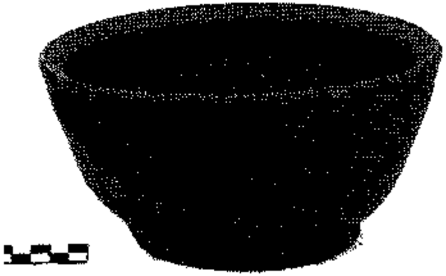
3. *Acharkulo* (pickle pot)



4. *Acharkulo*

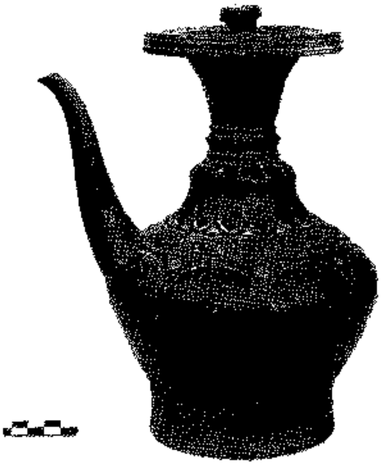


5. *Acharkulo*

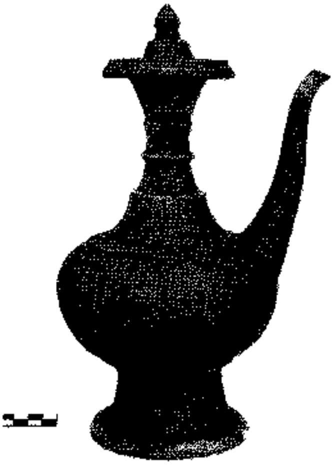


6. *Acharkulo*

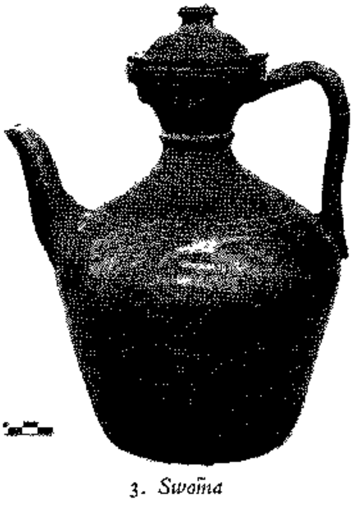
PLATE 2.



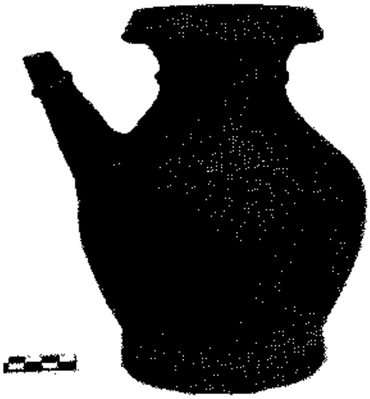
1. *Anti*



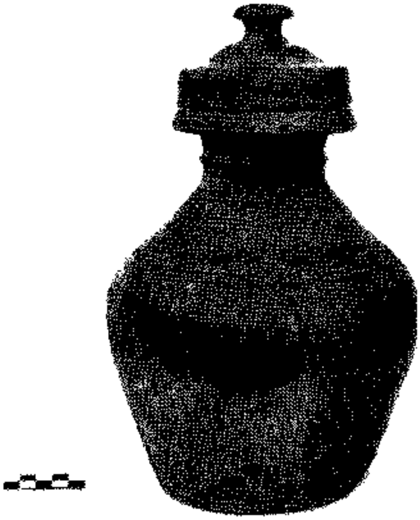
2. *Anti*



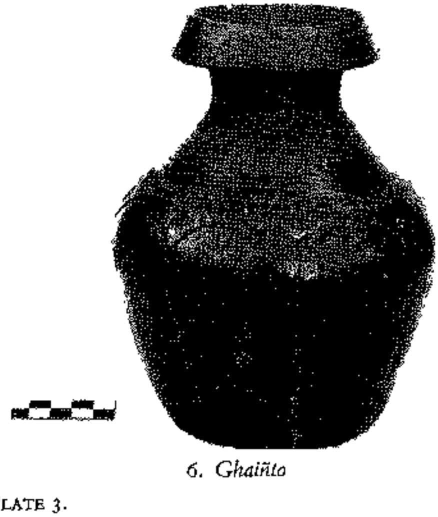
3. *Swoñ̃a*



4. *Tañpha*



5. *Ghaiñto*



6. *Ghaiñto*

PLATE 3.

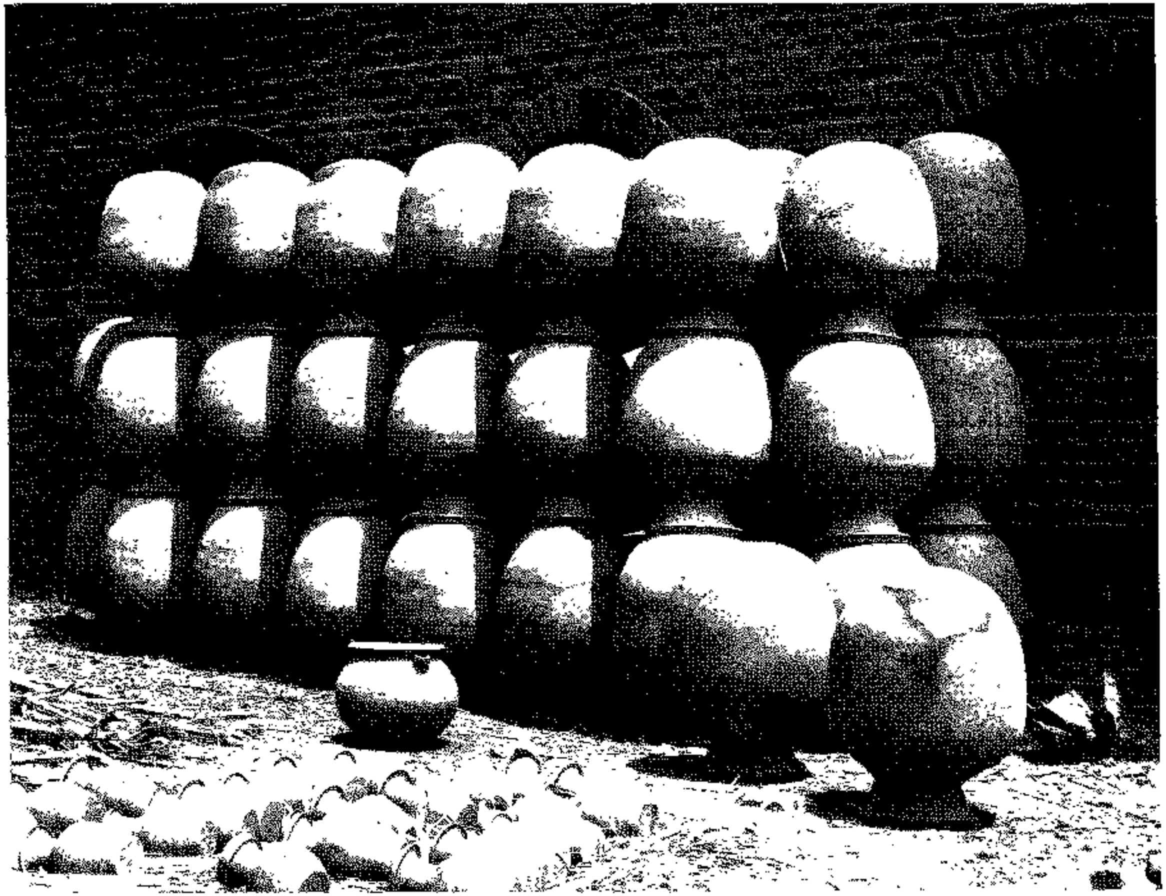


PLATE 4. *Ghyampo* stacked against wall in Bhadgaon with spouted *gulloo* in front. *Ghaiñto* are drying on straw in foreground.

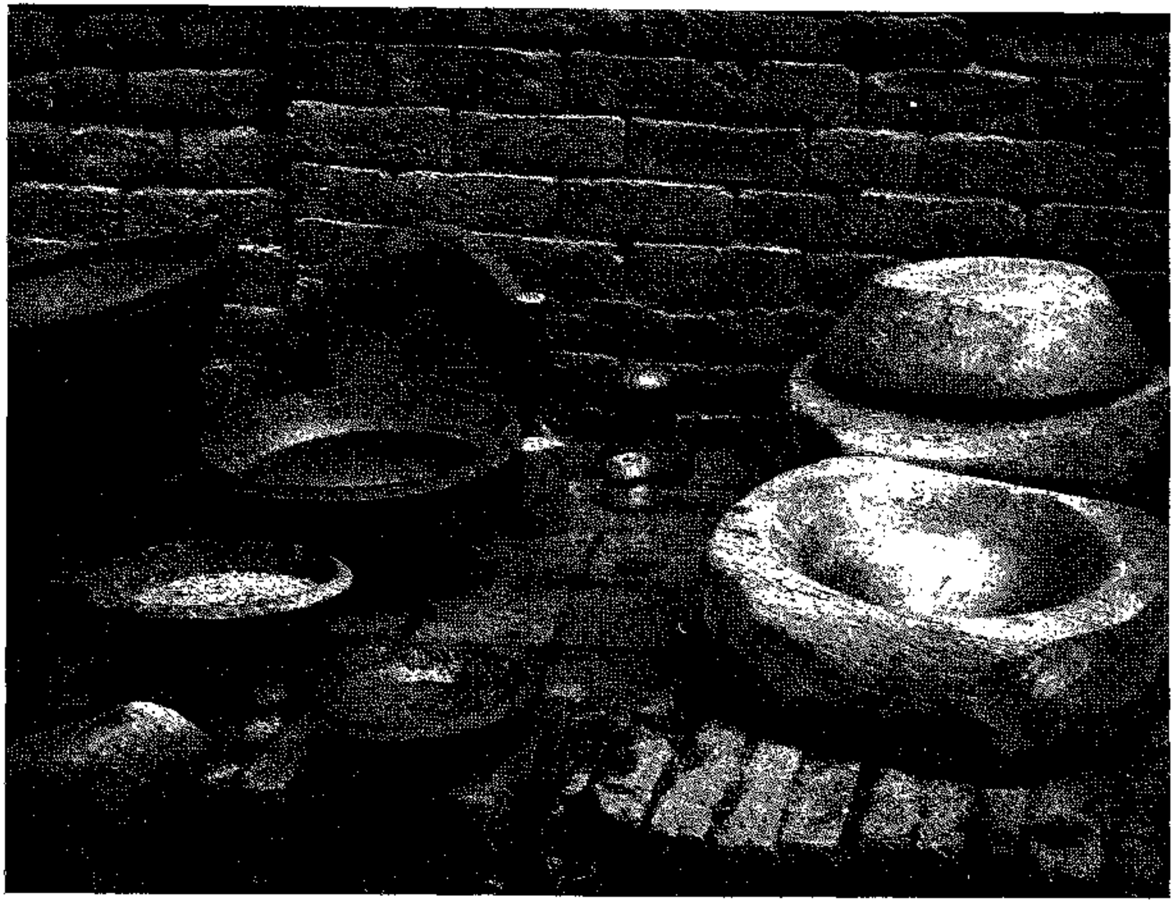


Plate 5. Potter's equipment at *Thimi*—wooden base (right) on which pots are worked and mould for large bowls; knobbed anvils and a wooden beater (centre); and bowls containing sand, ash and water (left) used in beating process. At extreme left is the first stage of a *ghyampo* with completely formed rim, and body as yet a solid lump of clay.

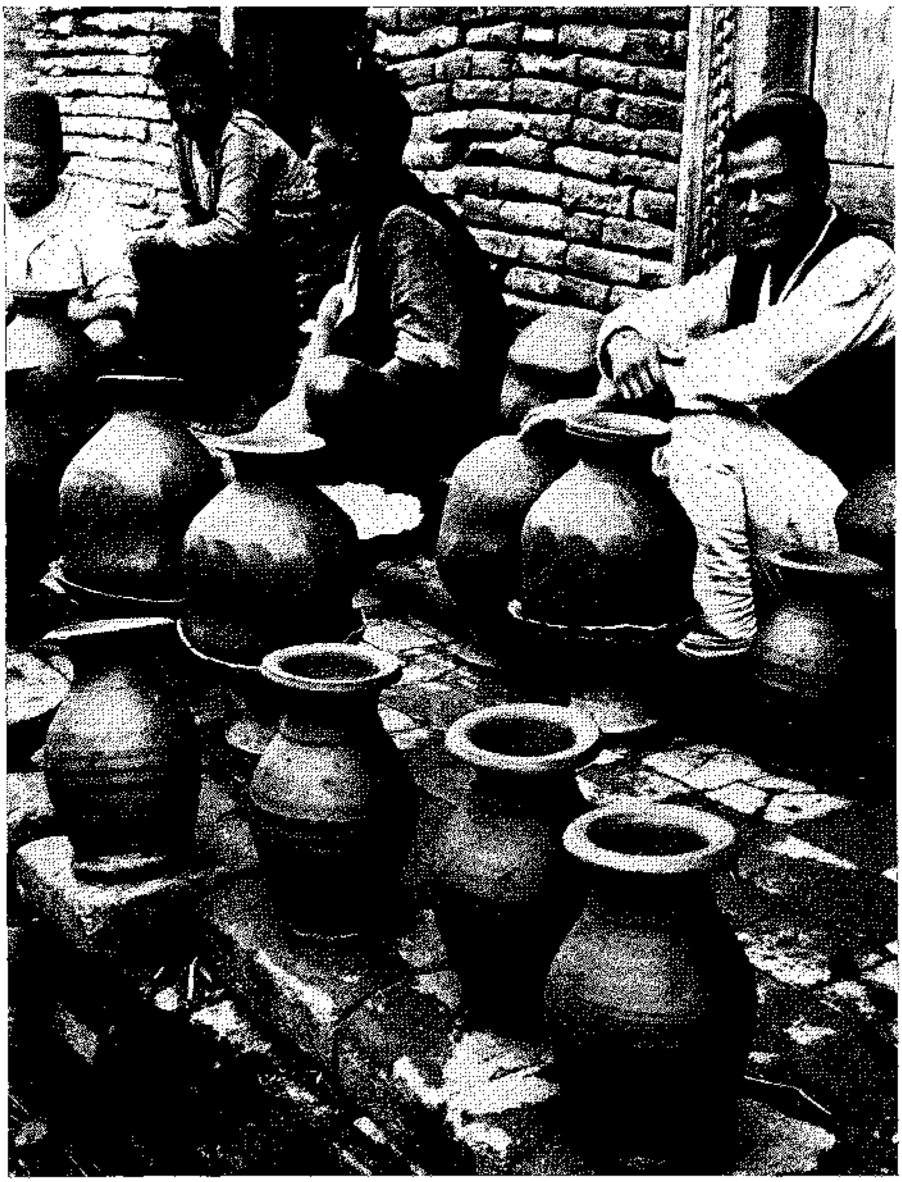


Plate 6. Potters of *Thimi*. Stage 1 of the *ghagro* (foreground) is flat-based with thick finger-ridged body. Stage 2 shows the body thinned by the beater and the base rounded. Note variety of rim forms.

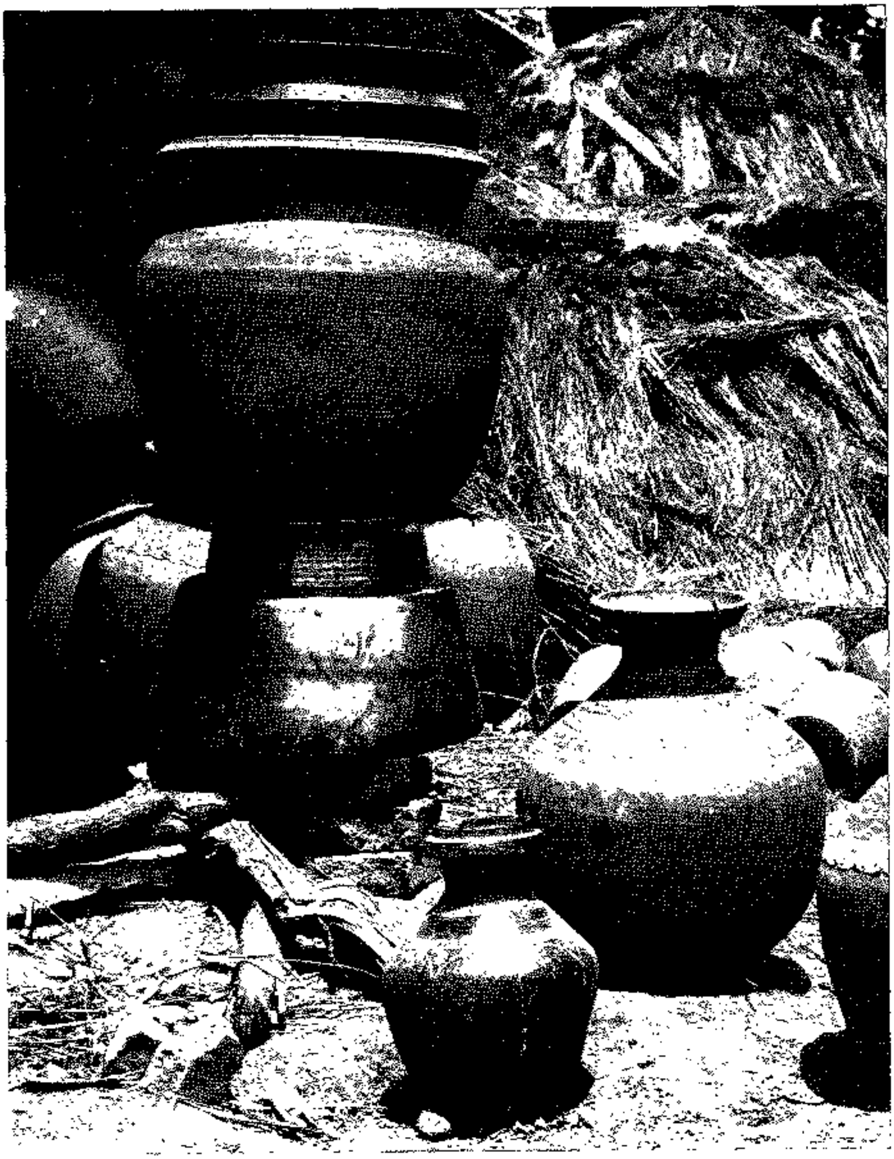


Plate 7. Distilling *rakshi* The fire is set below the bottom vessel (*foshi*), on which is *petassi* (clay) containing the *gulloo* inside it. The copper *chaubbata* is on top containing water. There is rice beer in the *foshi*, and the *gulloo* collects the condensed *rakshi*. In the foreground is a decorated *ghaiñto*.

PLATE 8. Baskets on sale in Patan.

6. *Miscellaneous domestic vessels*

Whenever financially possible rice is boiled in a brass *kasauri* (fig. 4, 5 and 9) or the cheaper *tasaula* (fig. 4, 6), the *hāndi* being kept predominantly for maize or buckwheat roasting and flour-making. The *bhinoto* (fig. 2, 4) is a rounded bowl used for cooked foods and as a general container—potters use it secondarily for water or mica beside them at work. Several forms of small brazier, *maka* (fig. 3, 6 and 9) are made in the same shape as the small four-legged bamboo baskets, and there is also a small closed oven. A much larger bowl, the *athañ*, is used for washing clothes. An interesting universal form to find here in the Kathmandu Valley is the fowl fountain (*Khayata tañ tankegu*) (fig. 1, 1) consisting of an inverted bell chamber in a saucer. Two varieties at least are made, with pointed top or loop-handle, all in burnished red ware, heavy and well made. Finally another universal series, the range of flower pots and flower vases, is commonly decorated by finger indentations around the rim. Both straight-sided and globular forms of flower pot are found, the latter with wavy indented rim.

7. *Smoking*

Two main forms of clay funnels are used by the male villagers in smoking, which they do frequently as a form of relaxation. A cone-shaped form about 10 cm long is known as a *chilim* and is commonly used for hashish although it can also be used for plain tobacco. Hashish is normally smoked by the older men sitting around in a circle of fifteen to twenty near the temple, and is considered relaxing after a day's heavy work in the fields. The larger *chilan* (fig. 3, 7 and 8) and *pato* (fig. 3, 10 and 11) is always used for tobacco, never hashish, and is attached by a wooden or silver pipe to a water pot, which has a mouth-piece attached. Tobacco is placed in the bowl, the *pato* placed above it, and charcoal packed over the *pato*. The *chilan* come in several styles, one with heavily micaceous clay which gives the appearance of gold-dust and applied stamped designs, another in dark burnished clay with triangular cutout designs reminiscent of traditional wood carving.

8. *Household worship*

A variety of small and humble vessels are used in household worship. The *palla* (pl. 1, 3) is a tiny saucer used to burn mustard oil or ghee with a cotton wick. The *dhupouro* (pl. 1, 2 and 6) is a handled bowl used for burning incense powder in worship. There is a small saucer lamp on a pedestal (fig. 3, 1) and tiny pots for offering a grain of rice and water (*gompacha*). All of these cost only a few paise each and are accessible even to the very poor for worship.

9. *Temple worship*

For the more hazardous situation of carrying offerings to the temple metal is preferred whenever possible, notably for lamps (*surkunda*) (fig. 4, 11), mirrors (*nakon*) (fig. 4, 10) and the *kalañ* (fig. 4, 12) a brass lidded and handled bucket in which the small clay pots for presentation are carried.

10. *Special ceremonial occasions*

In addition to the standard daily pots in use, certain shapes are made for special festivals or family occasions. The *kulincha* (or *kalash*) is a small pot which is placed at the four corners of a new house containing water, rice, peepal leaves and flowers for good fortune. The wealthy use copper ones. The *apacha* is a very small spouted pot given to the Brahmin who performs death rites, thirteen days later (pl. 1, 1). The *saraswati dhara* (pl. 1, 5) is an interesting pot with many holes in the body. Straws 6–8 cm long are stuck into these, so that when water is poured into the pot it pours out through all the straws. It is used in celebration of the goddess Saraswati. It is a characteristic of many of these ritual vessels that they are thin and usually carelessly made. Moreover all are made in the buff clay–red paint tradition rather than the black burnished one; one informant commented that no burnished pot could be given to a Brahmin in connexion with a death.

II

The potters and their techniques

A preliminary study only of the ceramic tradition among these potters was possible, since it was both restricted in time and confined to one part of the year. Obviously such a study is necessary for any estimate of the range of choices open to the potter. It also incidentally offers a promising approach towards adding a historical dimension to the contemporary picture; the distribution of specific techniques, at least in south Asia, has so far proved a more reliable indicator of the past movements of potters and their families than most stylistic and functional features. B. Saraswati's India-wide study (1964) has made a welcome beginning in this area, and has also listed the most useful technical processes for comparison.

The wheel. The wheel used by the potters especially in Bhadgaon is the solid (or block) pivoted wheel, turning about a socket set in the ground. In Thimi truck wheels with rubber tyres are also used.

The clays. The body clay used by the potters comes from fields in and around the village. The best clay comes from the deeper layers, is dark grey in colour, and is seasoned for a year before use. It is then prepared by 'fighting' or kneading, and Ram Gopal of Thimi said that for four *lassi* pots of 20 *mana* each he would have to fight the clay for one hour. Yellow clay for the slip comes from the mountains nearby, two days' walk away, and one potter said that to bring back as much as he could carry was about six years' supply. This is called *lancha*. After the application of one coat the pot will be yellow after one firing, with two coats red after one firing. It is only applied over the top and sides—i.e. where it will show. Also from the mountains comes the *pangra*, a shiny seed about the size of a large walnut used for burnishing, which the potters consider their lucky amulet.

Forming. The rim and side of the pot are formed on the wheel. For large pots in this stage the sides are extremely thick, forming a solid lump: this lump will be beaten in a series of processes designed to thin out the sides and strengthen the clay. The beating is done with square-section wooden beaters against a small knobbed anvil in a wooden block base, and when a beating stage is completed the pots are stood in an upturned broken pot. Micaceous sand is used to prevent sticking (pl. 5). Each stage of beating produces a specific change of shape, and the crescentic paddle marks form a regular series of rows around base and shoulder. In fact they are removed at each stage by careful scraping with an old sherd; often small particles become trapped in this process and drag characteristic small scratches horizontally around the pot—a sure sign of the technique.

Decorating. After beating is complete comes the decorating, which may be burnishing, carving with a sharp implement, or stamping with a clay stamp (fig. 3, 5). The tobacco pipes of Thimi have elaborate carved decoration, while *ghagros* and *ghyampos* of Thimi, as well as the red tobacco pipes can be stamped with rosettes or geometric designs, the latter being then covered with chalk which fires white.

Firing. Firing can take place in either small or large bonfires. Ram Gopal preferred to keep all his pots for a massive bonfire in December covering an area 12 m square in an open field but the potters of Bhadgaon had both small and medium sized bonfires once or twice a week from September onwards as required. These small fires were conical in form, kindled under a series of straw-roofed lean-to structures. All are fuelled with straw, the usual arrangement being in a square, the pots around the edge with mouths facing inwards. Straw alone is placed in the middle. No additional straw is added during the firing which lasts three days altogether, and the amount is carefully calculated so that when it is consumed the pots are done. The whole fire is covered with ash throughout. After one firing the pots are red. If they are required to be blackened they are left in with additional straw underneath, a little straw between and extra ash on top to make a very smoky fire. The ash is extremely important in all firings and is kept from one year to the next. Sometimes red pots come out with black patches, and this will be on the hottest side in the first firing, where wind has shifted the ash.

Rituals. The potters' year ends with the monsoon (July-September) and there is no firing during the heavy rains. Their main ritual occurs during *Dussehra* (*Dasain*) in October, when sacrifices of chicken or duck include blood smeared on the wheels, and this can also be repeated again during the year if anything goes wrong with the firing.

It is clear that in the Kathmandu Valley the potters have a very wide range of technical skills, that they consciously select from them, and that they are particularly adventurous in the way they use them. There is no cultural pressure against innovation, in fact the reverse, and they appear to cater to an interested and discerning public. A noticeable characteristic was the potters' own awareness of their own skills, and their ability both to describe and to analyse them.

A comparison with Indian techniques reveals only a general relationship with north India of about half the features compared; however documentation is still at a most general level. The beating method is that called by Saraswati the Northwest method, with closed base. The system of open fire is common to the western Himalaya, much of central India and Rajasthan. The use of the knobbed anvil is slightly more restricted, covering the western Himalaya, Punjab, Rajasthan, UP and Bihar. At present there are no comparative dates for the red and black burnished wares with their often elaborate decoration.

III

The major point that emerges from this brief investigation is that the dominant factor affecting the potters' output is the need to sell their pots in a competitive situation. All those questioned maintained that they made every type of pot rather than specialising in a few specific shapes because then they could sell more pots. Similarly the minor variations in details of profile, rim form and decoration on the basic pottery repertoire were consciously designed to attract the widest range of customers. Not only can this be seen in items in which personal taste might be expected to dominate—for example, in tobacco pipes, or beer and *rakshi* decanters —or in more lasting household vessels such as pickle jars, but even in the everyday water pots and big store jars. One potter in Thimi had no less than four different rim forms in the batch of otherwise identical water pots (*ghagro*) he had drying in front of his house. He firmly denied that any of them was stronger, more drip-free or easier to handle than any other. Some customers liked one kind, others another; he wanted to sell to them all. Another had square-shouldered *ghagro* alongside the more usual round ones outside his house—a new fashion which some preferred, he said.

Thus there was little discernible variation in the types of pot produced from one potter to the next, or from one village to the other, except in one aspect which was itself interesting. It was generally agreed that the potters of Thimi made more of the common water and beer jars (*ghyampo*, *ghagro* and *ghaiñto*) and the large pierced pot for distilling (*petassi*) because they were closer to the large urban market of Kathmandu. The potters of Bhadgaon produced these shapes in smaller quantity and sold them mostly to the inhabitants of the eastern mountain villages when they came down to the Valley to sell their own wares. The few miles separating these villages, scarcely noticeable with modern transport, appeared to be of considerable significance in a society where all loads are carried by man. It is incidentally noticeable that the same factor of distance cut down to a marked degree the range of pots bought by these mountain villagers. Not only personal taste, but also concept of specialisation in containers were non-significant in their relationship with the potters—they buy only the simplest *ghyampo*, *ghagro* and *hāndi* to take back on their six-day walk.

Again, in the use of decorative techniques, while all potters asserted that they all knew how to do all the techniques—pattern-burnishing, rouletting, incising, stamping, cutting or carving as well as the double-firing for dark pots—they were all equally prepared to admit that some were better at some forms. Several justified this differentiation in potter's skill by related statements concerning a lack of consumer appeal for items which they did not feel able to do well. One potter in Thimi, Ram Gopal, was widely held to be among the best at carving pots in either village, most of the carving and indeed much of the best decorative work being on the black pots. Black smoking pipes are often elaborately carved, the red clay ones more often rouletted or stamped, sometimes mica-dusted. Black *rakshi* and beer decanters are also often carved with gadroons and fluting, and usually pattern-burnished, or burnished to a high lustre. Burnishing also occurs on red pots, such as milk pots, fowl feeders, some *rakshi* decanters and particularly on red pickle jars of various shapes, but is not found on the whole range of buff and red-washed porous cooking and ritual pots. The impression remains that while virtually all the potters—virtually all Newar and all Hindu—are able to make all kinds of pot with all kinds of decoration, there appears to be a marked double strand in the ceramic tradition between, in general, the burnished red and black slip *rakshi* and beer containers, pickle jars and milk pots, and some of the *chilim* on the one hand, and the matt buff or buff red-washed *hāndi*, water pots and the whole range of ritual pots on the other. The latter group, both by shape and in techniques are clearly related to north India and may be assumed to have been introduced into the Valley from there. The former, obviously at least partly derived from a wood-carving tradition and also closely allied to metal forms, seem to have a different origin. Further work in this area of study seems promising.

A number of other points of interest arose from this study, brief as it was, especially for those concerned with ceramic systems in archaeological contexts.

For example, analysis of the total ceramic repertoire reveals a surprisingly full picture of village life, mostly but not wholly concerned with domestic economy. The size and quantity as well as the shape of the clay vessels found can be revealing of family size or wealth, seasonal activities or social groupings. The large store jars as well as the water jars are made in a full range of sizes, as are the cooking pots, the curd bowls and the *lassi* jars. Clay pots are preferred for pickles, of lemon or cucumber or *lopshi*, and a wide range of shapes, sizes and qualities is available to the family that wants them. Houses are equipped with clay braziers, ovens and fowl feeders if required and flower pots and vases for ornament. Clay pipes for relaxation come in many forms, and are a recognised area in which the customers' tastes are particularly important. In the large number of vessels associated with the making, storage and drinking of *rakshi* there is an interesting distinction between the standardisation of the vessels used in its production, and the range of decorative forms found on the drinking carafes and the storage pots. At the same time both smoking and drinking vessels are sociological indicators, since no strict high caste Hindu uses either. More indicative of ritual life is the comparatively high proportion of vessels made specifically for ceremonies and worship. Tiny offering pots, lamps and *dhupaura* for daily worship are accompanied by special pots for house dedication, and for presentation to the officiating Brahmin after a death in the family. This area of investigation appears to be a particularly interesting one to pursue, in view of the ambivalent religious situation in the Valley. So far Hindu ritual pottery forms a distinctive part of the repertoire. The significance of the purchase and use of these pots remains to be further investigated, as does the possibility of any vessels which may be used primarily by the Buddhist community.

Again, if the average archaeologist were to attempt a conventional classification of this repertoire without the aid of informants it is very soon clear that reliance on morphology of the pots and stylistic variation in rim details and decoration would be of little assistance, especially if the sample should be confined, as so often happens in an archaeological situation to rims and part profiles. On the other hand, a classification which also utilised easily observed details of technique such as the use and nature of slip or burnish or both, the thickness of the walls, the presence of paddle marks, striations caused by scraping with a sherd and the use of double-firing would yield, in this instance at least, a far more significant functional picture. The information given by the potters themselves makes it clear that such details are consciously related to the ultimate use of the pot. Double firing used to produce brownish-black rather than the normal buff or red-slipped wares is thought by most of the potters to give extra strength, while burnishing is consciously applied to vessels in which evaporation of the contents is to be avoided. A combination of these two is therefore usually used on pots required to have a long life or to preserve precious contents in, e.g. pickle pots (which can preserve their contents up to a year) and *rakshi* containers which are often highly decorated. An unpolished wash is used on *lassi* pots in which butter fat will do the same job of clogging the pores of the clay as burnishing would do. They are made especially heavy with thick walls and of good quality, for constant domestic use. On the other hand, small drinking saucers, offering dishes and pots, and those made as payment are feather light with thin walls, and would not be expected to last for any length of time. Paddle-marks on store jars, water pots and cooking pots, usually partly but not completely obliterated, merely indicate that the vessel is large in comparison to the thickness of its walls, which must then be finished and thinned by beating. The same technique is indicated by the presence of mica specks on the bottom and lower sides of such vessels, for micaceous sand is used freely while the base is being beaten to prevent sticking. One further feature is detectable on these pots which the archaeologist would doubtless use in his classification even if he could not infer its significance—a series of irregular horizontal striations produced when a sherd is scraped round the lower body to remove all trade or paddle marks. Paddle marks are sometimes left visible on the shoulder—no-one had any satisfactory answer why. Neither paddling nor scraping with a sherd appears on the burnished pickle jars or the *lassi* and milk pots (which of course are intentionally left fairly thick).

In fact function remains the dominant aspect of the pot for both potter and consumer. Classificatory terms used by the consumers and potters themselves are predominantly functional, with minor complications. For the most part one vessel type or shape has one function and one name, especially among the ritual vessels. Often a form like the *hāndi* will come in several sizes, to which the same name *hāndi* is applied. In some cases however variation in size itself is significant enough to denote a new type—for example the first explanation given to me of the difference between the three liquid storage jars—*ghyampo*, *ghagro* and *ghaiñto*—was one of size, i.e. in general the *ghyampo* is large, *ghagro* middle-sized and *ghaiñto* small. On further questioning it became clear that in terms of actual measurement the three classes could overlap quite considerably whereupon I was told that it was a combination of shape and size; when I pressed further in attempting to identify the precise shape variations concerned, i.e., flat or round base, rim forms, nothing could be selected as a permanent and identifying shape characteristic of one or another. However, the fact remains that all agreed instantly on names for any given pot, and I also within a few days could come to the same conclusion. In general the size factor was important, and *ghagros* were more often round-based and *ghaiñtos* flat-based. Finally, sometimes the same name is applied to several pots varying not only in size but also in shape, but with the same overall use, e.g., the name *thẽki*, which is given to a graded range of milk pots, and also *lassi* pots of totally different shape but related use. This is also true of personal water and wine pots. The name *anti* is used in precisely the same way as our terms carafe and decanter, to denote a wide range of vessels which can vary widely in shape and decoration, some spouted, some narrow-necked, but all of which are specifically used for pouring small quantities of liquid carefully. *Acharkuli* equally applies to pickle jars which again may vary widely in shape, but which again share certain common characteristics—this time general squatness, fairly small opening and lid, and a burnished exterior.

IV

In conclusion it must be said that while the pottery repertoire of any group obviously has to be studied on its own from the point of view of the ceramic tradition and the potting skills involved, it must equally always be viewed in the context of the total container repertoire. The Kathmandu Valley is no exception. Wood, metals and basketry and strong woven bags complete the variety of containers used, and once these are added the cultural information yielded is considerably increased. Obviously for the archaeologist it is invaluable to find the full range of materials in current use with reasons for preference of any specific material available.

Metal, whether brass, copper, silver or aluminium, is preferred for a wide range of storage, serving and cooking containers for several qualities—its length of life, its versatility in shaping, its strength for large vessels, its cleanliness and its attractive appearance. Some of the range in normal domestic brassware, is illustrated on figs. 3 and 4. Rarer luxury pieces, more ornate decanters (*anti*), *ghaiñto*, *tañpha* and *kharuwa* in silver with brass decoration, or ornate bronze, together with similarly more elaborate ritual vessels—lamps, mirrors—can be still seen in antique shops and collections in Kathmandu. Household wares are in brass of varying quality, the heavy paler variety being the more expensive and desirable. Large domestic vessels, the *bata* and *foshi* and especially the *kharkulo*, are considered particularly auspicious, and are commonly given at weddings. The *kasauri* of heavy quality is used especially for cooking rice, the *tasaula* is a thinner cheaper imitation, often given to the Brahmin as payment. Metal is particularly preferred for the storage of cooked food. The brass *ghagri* is the all-purpose family water pot (fig. 3, 16), the spouted *kharuwa* a personal drinking vessel usually carried around all day (fig. 3, 13 and 14). Alternatively the non-spouted *amkhora* is used as an individual drinking vessel (fig. 4, 8). These are the major general vessels. The *chaubbata* is used specifically in making *rakshi*, while the *surkunda* (lamp) and *kalañ* are used in daily worship. In general metal vessels are preferred for taking to the temples because of the greater wear and tear involved; clay ritual pots take their place in the home. The *kalañ* is especially used to transport offerings to the temple. Other forms—ladles and cooking utensils, spittoon (fig. 4, 7) and chamber pot (fig. 4, 3) are also made. It is notable that several of these shapes are only used in metal—the *kalañ*, *foshi* and *bata* do not appear to be copied in clay.

Bamboo basketry is widely used for carrying containers, because of its lightness and strength. Strong openwork light baskets are used particularly around Kathmandu in pairs, slung from a carrying pole (*kharpan*), for the transport of goods to and from market, fertiliser to the fields, fuel, and building materials. Larger single conical baskets are carried on the back for long journeys (*doko, thunse*). Both kinds are of varying quality, and are carefully selected according to weight of load and/or expected length of life. Baskets of closer weave, also circular but often supported on four small bamboo legs (*dalo*), are used in the house for storage of dry goods—chilis, grains, lentils, flour, presumably because of the aeration permitted by the weave.

Wood is preferred for tea bowls (usually lined and lidded with silver), and in the kitchen for oil jars and butter pots. It is specifically thought to impart a good flavour to these items; neither oil nor butter containers appear to be made at all in either metal or clay. The shapes are varied, but share the universal features of lathe-turned wooden vessels—knobbed lids, turned rims and bases, cylindrical form, and decoration usually by means of sets of fine grooves encircling the pot and lid. Sometimes bands and medallions of brass are added externally. The contents in both instances preserve the wooden vessel, and many were said to be several generations old.

Clay is then seen in its turn to be used for its own positive qualities—its cheapness and availability, its cooling properties and refractory properties, its strength and versatility in forming and its flavour, while its corresponding disadvantages are equally recognised—its friability and lack of cleanliness for cooked foods. Its uses can be grouped into three classes. First, clay is used wherever suitable for making cheaper copies of brass, copper, aluminium and silver vessels for families which cannot afford the investment of 40 or 50 times as much for a non-breakable water or cooking pot—however much to their advantage it would ultimately be. Equally it is used for providing extra pots in those households which already have some brass vessels—the two forms are not exclusive. Such clay vessels as the *ghagro*, *ghaiñto*, *anti*, *swoña*, and *hāndi* therefore follow exactly the forms and decoration of their metal prototypes. So also do some of the small vessels used in household worship—small lamps for oil, bowls for incense, small offering pots and saucers. In both groups the additional properties of clay are an obvious advantage, although they do not overcome the basic problem of its fragility. Secondly, in a smaller group come vessels intended to be disposable, either in a domestic or religious context, and therefore again exploiting the cheapness of clay. They are distinguishable primarily by their careless workmanship and thin walls. These include pots made for payment to Brahmins for priestly duties, festival pots like the *saraswati dhara* as well as daily offering pots and saucers, and tea and *rakshi* dishes thrown away after use. Thirdly, come those vessels made of clay which exploit the more positive properties of clay—*chilan*, *chilim*, braziers and ovens, flower pots and fowl feeders on the one hand, and a group of rather less obvious vessels on the other in which clay is desired for its beneficial effect on the contents—the *gulloo*, or spouted pot used in the collection of the spirit in *rakshi* making: curd bowls, milk pots and *lassi* pots (*theki*) which are daily scrubbed out and re-used and the *acharkuli* or pickle pots and bowls for which again clay is specifically preferred. Not surprisingly it is more difficult to trace any prototypes in other materials for this third class, if indeed they exist.

NOTE

[1] Figures 1, 2 and 3; 1–11 are made of clay, Figure 3, 12–15 and 4 are in brass or copper. Pots are drawn to quarter-scale, metal vessels approximately only quarter-size.

REFERENCE

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